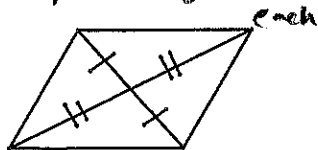
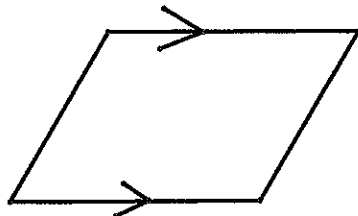
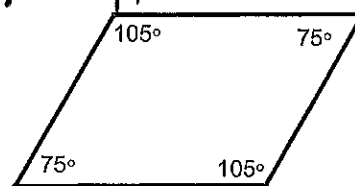
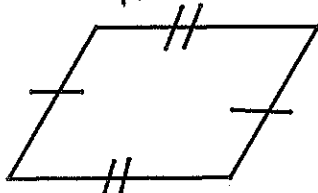
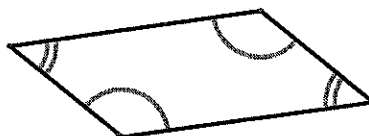
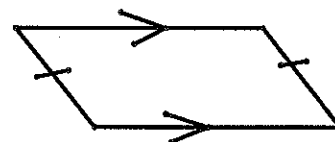


Name \_\_\_\_\_

Date \_\_\_\_\_

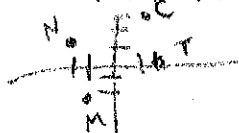
## 202 Geometry 8.3-8.5 Extra Practice

Determine whether each quadrilateral is a parallelogram. Justify your answer.

1. yes diagonals bisect each2. no3. yes opp  $\angle$ s  $\cong$ 4. yes opp sides  $\cong$ 5. yes opp  $\angle$ s  $\cong$ 6. no

Determine whether a figure with the given vertices is a parallelogram. Use the midpoint formula.

7. N(-2,1) C(1,3) T(2,0) M(-1,-2)



$$M_{\overline{NT}} = \frac{-2+2}{2}, \frac{1+0}{2} = (0, \frac{1}{2})$$

$$M_{\overline{CM}} = \frac{1+(-1)}{2}, \frac{3+(-2)}{2} = (0, \frac{1}{2})$$

Same midpt  
diagonals bisect  
each other

RSTU is a rectangle.

8. If  $UZ = x + 21$  and  $ZS = 3x - 15$ , find US.

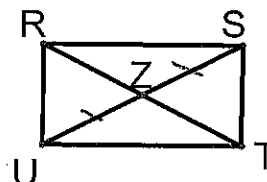
$$x + 21 = 3x - 15$$

$$36 = 2x$$

$$18 = x$$

$$\frac{18}{+21} \times 2$$

$$78 = US$$

9. If  $RZ = 3x + 8$  and  $ZS = 6x - 28$ , find UZ.

$$3x + 8 = 6x - 28$$

$$36 = 3x$$

$$x = 12$$

$$3(12) + 8$$

$$36 + 8 = 44 = UZ$$

10. If  $RT = 5x + 8$  and  $RZ = 4x + 1$ , find ZT.

$$2(4x + 1) = 5x + 8$$

$$8x + 2 = 5x + 8$$

$$3x = 6$$

$$x = 2$$

$$ZT = 9$$

11. Rectangle FGHI.  $m\angle 1 = 42^\circ$ . Find all of the numbered angles.

$$m\angle 2 = 48$$

$$m\angle 3 = 42$$

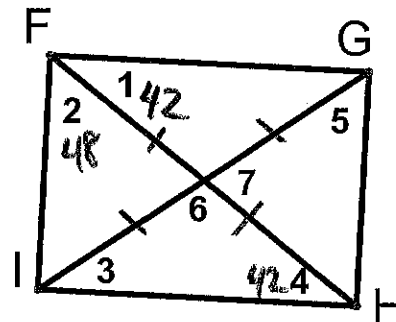
$$m\angle 4 = 42$$

$$m\angle 5 = 48$$

$$m\angle 6 = 96$$

$$m\angle 7 = 84$$

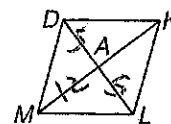
$$180 - 84 = 96$$



# 8-5 Skills Practice

## Rhombi and Squares

Use rhombus  $DKLM$  with  $AM = 4x$ ,  $AK = 5x - 3$ , and  $DL = 10$ .



1. Find  $x$ .  $3$

$$4x = 5x - 3$$

$$x = 3$$

2. Find  $AL$ .  $5$

3. Find  $m\angle KAL$ .

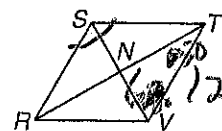
$90$

4. Find  $DM$ .

$13$

$$5^2 + 12^2 = 13^2$$

Use rhombus  $RSTV$  with  $RS = 5y + 2$ ,  $ST = 3y + 6$ , and  $NV = 6$ .



5. Find  $y$ .  $2$

$$5y + 2 = 3y + 6$$

$$2y = 4$$

$$y = 2$$

6. Find  $TV$ .

$12$

7. Find  $m\angle NTV$ .

$30$

$$5y + 2 = 3y + 6$$

$$2y = 4$$

$$y = 2$$

8. Find  $m\angle SVT$ .

$60$

9. Find  $m\angle RST$ .

$120$

10. Find  $m\angle SRV$ .

$60$

**COORDINATE GEOMETRY** Given each set of vertices, determine whether  $\square QRST$  is a *rhombus*, a *rectangle*, or a *square*. List all that apply. Explain your reasoning.

11.  $Q(3, 5)$ ,  $R(3, 1)$ ,  $S(-1, 1)$ ,  $T(-1, 5)$

$\overline{QS}$

$$m = \frac{4}{-4} = -1$$

$\perp$

$$QS = \sqrt{32}$$

$\cong$

Rect, Rhomb, Square

$\overline{RT}$

$$m = \frac{4}{-4} = -1$$

$$RT = \sqrt{32}$$

12.  $Q(-5, 12)$ ,  $R(5, 12)$ ,  $S(-1, 4)$ ,  $T(-11, 4)$

$\overline{QS}$

$$m = \frac{8}{-6} = -\frac{4}{3}$$

$$QS = \sqrt{80}$$

Rhombus

$\overline{RT}$

$$m = \frac{8}{-6} = -\frac{4}{3}$$

$\perp$

$$RT =$$

$\neq$

13.  $Q(-6, -1)$ ,  $R(4, -6)$ ,  $S(2, 5)$ ,  $T(-8, 10)$

$\overline{QS}$

$$m = \frac{6}{-8} = -\frac{3}{4}$$

$$QS = \sqrt{36 + 64} = 10$$

Rhombus

$\overline{RT}$

$$m = \frac{10 - 6}{-8 - 4} = \frac{4}{-12} = -\frac{1}{3}$$

$\perp$

$$RT = \sqrt{16^2 + 144} \neq$$

14.  $Q(2, -4)$ ,  $R(-6, -8)$ ,  $S(-10, 2)$ ,  $T(-2, 6)$

$\overline{QS}$

$$m = \frac{6}{-12} = -\frac{1}{2}$$

$$QS = \sqrt{36 + 144} = \sqrt{180}$$

None

$\overline{RT}$

$$m = \frac{6 - 8}{-2 - 6} = \frac{-2}{-8} = \frac{1}{4}$$

$\perp$

$$RT = \sqrt{16 + 144} = \sqrt{160}$$

$\neq$